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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/743,898	01/17/2001	Simon Julian Powers	36-1406	8599

7590 12/04/2003

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EXAMINER

ANYA, CHARLES E

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 12/04/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/743,898

Applicant(s)

POWERS ET AL.

Examiner

Charles E Anya

Art Unit

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 12 – 20, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,226,669 B1 to Huang in view of U.S. Pat. No. 6,219,045 B1 to Leahy et al.**

As to claim 12, Huang teaches an apparatus for estimating the likelihood of an avatar, under the control of a user in a virtual environment (figures 1/2 SharedWeb System Col. 4 Ln. 41 – 67, Col. 5 Ln. 1 – 13, Col. 8 Ln. 35 – 63), moving within a predetermined range of a boundary (“... $P = P_{sub\ o} + V \cdot t$ ...” Col. 8 Ln. 48 – 63), the apparatus comprising: recording means for recording the position of the avatar at intervals to obtain movement data (Client Table 320 Col. 5 Ln. 8 – 45), means for storing data as to the relative frequency of occurrence of different categories of the movement (“...Objection-State PDUs...” Col. 8 Ln. 35 – 43), and frequency data for categories of movement such as would correspond to a potential movement of the avatar from its current position into a position within the predetermined range of the boundary (“... $P = P_{sub\ o} + V \cdot t$ ...” Col. 8 Ln. 48 – 63).

Although Huang does not explicitly teach a means arranged to read, from the stored data the Object-State PDUs would at some point be read in process of determining the position of the avatar.

This notwithstanding Leahy teaches a means of reading from stored data of avatar position (Rendering Engine 120 Col. 7 Ln. 48 – 57). It would have been obvious to apply the teaching of Leahy to the system of Huang. One would have been motivated to make such a modification in order render a view of a virtual world from the position and orientation of an avatar (Col. 7 Ln. 48 – 57).

As to claim 13, Huang is silent with reference to the means for storing data being arranged to discard data relating to movement after a set period of time. Leahy teaches the means for storing data as being arranged to discard data relating to movement after a set period of time (“...periodic updates...” Col. 7 Ln. 45 – 47 “...updates...” Col. 8 Ln. 63 – 67, Col. 9 Ln. 1 – 7 “...updating...” Col. 15 Ln. 4 – 11). It would have been obvious to apply the teaching of Leahy to the system of Huang. One would have been motivated to make such a modification in order to determine the range of adjoining avatars (Col. 9 Ln. 1 – 3).

As to claim 14, Huang teaches the recording means as being adapted to record the position of the avatar at regular intervals of time in the virtual environment (“...per second...” Col. 8 Ln. 35 – 48).

As to claim 15, Huang is silent with reference to a movement of the avatar taking into consideration obstructions to the movement of the avatar within the virtual environment.

Leahy teaches a movement of the avatar as being able to take into consideration obstructions to the movement of the avatar within the virtual environment (“...constraints...” Col. 6 Ln. 37 – 48). It would have been obvious to apply the teaching of Leahy to the system of Huang. One would have been motivated to make such a modification in order control avatar motion (Col. 6 Ln. 37 – 48).

As to claim 16, Huang teaches the predetermined range as being dependent upon a range of awareness of the avatar within which the avatar can experience the virtual environment (“...visually-perceptible...” Col. 9 Ln. 5 – 16).

As to claim 17, Huang teaches the categories of movement as being determined by run lengths (“...P sub o...P sub i...” Col. 9 Ln. 32 – 39).

As to claim 18, Huang teaches the categories of movement as being determined by run lengths within a predefined corridor (“...P sub l’ – P sub i...” see figure 2).

As to claim 19, Huang teaches the categories of movement as being determined by the movement of the avatar into areas around the avatar (“...the predicted avatar position P...” Col. 8 Ln. 44 – 67).

As to claim 20, Huang teaches the categories of movement as being determined by directions and distances of movement of the avatar (“...Location, Linear Velocity...” Col. 7 Ln. 23 – 45).

As to claim 27, Huang teaches a storage medium storing instructions for controlling a computer to carry out the method of any one of claim 12 (“...virtual-reality scene file...” Col. 4 Ln. 58 – 67, Col. 8 Ln. 1 – 7: NOTE: Although a storage medium is

not explicitly described server 100 inherently includes a storage medium for storing the scene file).

As to claim 28, although Huang does not teach a signal carrying computer-implementable instructions for controlling a computer, one of ordinary skill in the art would have known at the of the invention to include a signal carrying-implementable instructions for controlling a computer in order to provide a communication channel modulated to carry analog or digital signal information.

**Claims 1 – 11 and 21 – 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,226,669 B1 to Huang et al. in view of U.S. Pat. 6,219,045 B1 to Leahy et al. as applied to claim 12 above, and further in view of U.S. Pat. 6,366,285 B1 to Brush, II et al.**

As to claim 1, claim 12 covers claim 1 except a client providing a user interface to the virtual environment to allow a user to control an avatar in the virtual environment and the client being arranged to obtain information from the server means about the status of the adjacent zone only when the likelihood of the avatar moving within the predetermined range of the boundary of the adjacent zone is above a threshold. Huang teaches a client providing a user interface to the virtual environment to allow a user to control an avatar in the virtual environment and the client being arranged to obtain information from the server means (“...SharedWeb browser...” Col. 5 Ln. 1 – 7, SharedWeb Server 300 Col. 7 Ln. 18 – 22).

Huang as modified is silent with reference providing information on the status of the adjacent zone only when the likelihood of the avatar moving within the predetermined range of the boundary of the adjacent zone is above a threshold.

Brush, II teaches providing information on the status of the adjacent zone only when the likelihood of the avatar moving within the predetermined range of the boundary of the adjacent zone is above a threshold (“...inner...sensors...” Col. 6 Ln. 16 – 49). It would have obvious to apply the teaching of Brush, II to the system of Huang as modified. One would have been motivated to make such modification allow a virtual dog to enter a selected state (Col. 6 Ln. 38 – 41).

As to claim 2, Huang teaches a threshold that is determined in dependence upon a cost function (“...DR threshold 30...at least 300 user...” Col. 10 Ln. 9 – 21).

As to claim 3, Huang teaches a threshold that is determined in dependence upon the amount of communication traffic and/or the time taken for the communication with the server means (“...frame rate...” Col. 9 Ln. 45 – 67, Col. 10 Ln. 1 – 14).

As to claims 4 and 26, see the rejection of claim 13.

As to claim 5, see the rejection of claim 14.

As to claim 6, see the rejection of claim 15.

As to claim 7, see the rejection of claim 16.

As to claim 8, see the rejection of claim 17.

As to claim 9, see the rejection of claim 18.

As to claim 10, see the rejection of claim 19.

As to claim 11, see the rejection of claim 20.

As to claims 21 and 24, see the rejection of claim 1.

As to claim 22, see the rejection of claim 2.

As to claims 23 and 25, see the rejection of claim 3.

**Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E Anya whose telephone number is (703) 305-3411. The examiner can normally be reached on M-F (8:30-5:30) First Friday off.

The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Charles E Anya  
Examiner  
Art Unit 2126

cea

  
JOHN FOLLANSBEE  
SUPERVISORY PATENT EXAMINER  
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